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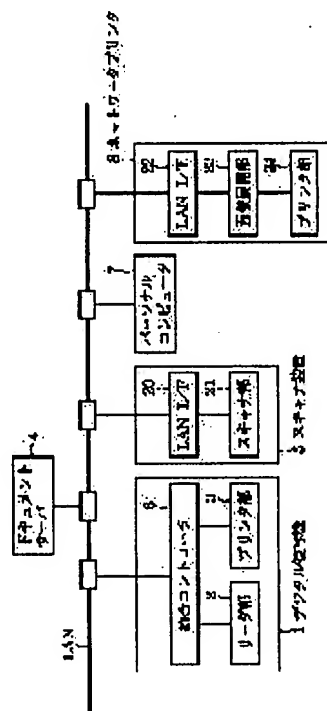
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(54) DATA PROCESSOR, IMAGE OUTPUT CONTROLLER, DATA TRANSFER METHOD, IMAGE OUTPUT CONTROL METHOD AND STORAGE MEDIUM STORING COMPUTER READABLE PROGRAM

(57)Abstract:

PROBLEM TO BE SOLVED: To quickly cope with some trouble by transferring output information a server receives to a next specified image processor and changing an output schedule even if the trouble occurs to an image output device of high priority order.

SOLUTION: This device has characteristics that output information, to which an image outputted party of order of high priority for specifying an alternative outputted party on the basis of order of output priority is imparted, is transferred from a personal computer 7 to a digital copying machine 1 of high priority order and the output information that cannot be outputted according to the image outputted party following the order of priority is automatically transferred to a network printer 8 when the digital copying machine 1 which receives the transferred output information cannot output the output information.



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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the storage which stored the program which the data processor, the image power control device, the data transfer approach, the image output-control approach, and computer in the image output system which communicates with two or more image output units and two or more data processors through predetermined communication media, and is equipped with the server which can be transmitted to one of image processing systems for a print-out can read.

[0002]

[Description of the Prior Art] Conventionally, various image formation equipments with which monochrome printer, a color printer or resolution, and print speed differed from finishing equipment etc. to image formation equipment under the networking environment by which a personal computer, a scanner, a server, image formation equipment (printer), etc. were connected on the network are connected on the network.

[0003]

[Problem(s) to be Solved by the Invention] By the way, whether a text is created with document processing system equipment (a personal computer etc. is included), monochrome printer is chosen according to the document drawn up when printed out from the image formation equipment connected on the network, or a color printer is chosen, a printer with a quick print speed is chosen, or the printer of high resolution is chosen needed to choose the printer for which an operator asks, and the print job needed to be performed.

[0004] Moreover, the print job schedule by which scheduling was carried out once had the trouble of not being printed out, unless it can keep the print-out from image formation equipment which carried out scheduling once unless the operator has noticed or the operating state of a printer was checked at any time, when a trouble or an interrupt occurred waiting or trouble processing is carried out.

[0005] Were made in order that this invention might solve the above-mentioned trouble, and the print-out to which the image output destination change for a server to pinpoint an alternative output destination change based on output priority from a data processor is added is received. It transmits to the image output unit of high either of the priority added to the received this print-out. By carrying out automatic transfer of the print-out which cannot be outputted according to the image output destination change according to this output priority, when the image output unit which received the this print-out transmitted cannot output the print-out concerned Even if a certain trouble occurs with the high image output unit of priority, it transmits to the following image processing system which is having the print-out which the server received specified. An output schedule is changed. It is offering the storage which stored the program which the data processor, the image power control device, the data transfer approach, the image output-control approach, and computer which can build the image output environment it being able to respond promptly, free can read.

[0006]

[Means for Solving the Problem] The 1st invention concerning this invention It is the data processor which can be transmitted to said server about the print-out which communicates with the server (document server 4 shown in drawing 1) which controls two or more image output units (the digital copier 1, network printer 8 which are shown in drawing 1) through predetermined communication media, and is generated. A selection means to choose one or more image output units (based on the printer driver of the personal computer 7 shown in drawing 1), The priority decision means which attaches output priority to two or more image output units chosen with said selection means (based on the printer driver of the personal computer 7 shown in drawing 1), The control means which transmits the print-out to which the identification information for pinpointing an alternative output destination change based on the output priority determined by said priority decision means is added to said server (based on the printer driver of the personal computer 7 shown in drawing 1), It has a notice means (based on the printer driver of the personal computer 7 shown in drawing 1) to notify the output destination change modification information transmitted from said server, after a transfer of said print-out by said control means.

[0007] The 2nd invention concerning this invention Predetermined communication media (the network LAN shown in drawing 1) are minded. They are two or more data processors (computer apparatus containing the personal computer 7 shown in drawing 1 which is not illustrated), two or more image output units (the printer section 3, the printer section 24 which are shown in drawing 1), and the image power control device that can be communicated. An acquisition means to analyze the print-out received from one of data processors, and to acquire as another image output destination change as a priority (controller which the document server 4 shown in drawing 1 does not illustrate), The 1st judgment means which judges whether it is the trouble condition that the image output unit corresponding to the image output destination change acquired by said acquisition means cannot carry out normal power of said print-out (controller which the document server 4 shown in drawing 1 does not illustrate), When judged with it being in a trouble condition by said 1st judgment means The 2nd judgment means which judges whether there is any next alternative destination assignment based on as another identification information as the priority added to said print-out (controller which the document server 4 shown in drawing 1 does not illustrate), When it judges with alternative destination assignment not being made by said 2nd judgment means A notice means to notify that the image output by said image output unit is non-exit status to one which is deduced from this print-out of data processors (controller which the document server 4 shown in drawing 1 does not illustrate), When it judges with the next alternative destination assignment being made by said 2nd judgment means It has the transfer control means (controller which the document server 4 shown in drawing 1 does not illustrate) transmitted to the following image output unit based on the specified this priority. Said notice means It notifies that the image output destination change of said print-out was changed after the transfer by said transfer control means to the data processor which received the print-out concerned.

[0008] Said trouble of the 3rd invention concerning this invention is failure of said image output unit.

[0009] It is the form piece of a record medium [as opposed to / invention / concerning this invention / 4th / said image output unit in said trouble].

[0010] It is feed plugging [as opposed to / invention / concerning this invention / 5th / said image output unit in said trouble] of a record medium.

[0011] The 6th invention concerning this invention It is the data transfer approach [in / for the print-out which communicates with the server (document server 4 shown in drawing 1) which controls two or more image output units through predetermined communication media (the network LAN shown in drawing 1), and is generated / the data processor which can be transmitted to said server]. The selection process which chooses one or more image output units (not shown), The priority decision process which attaches output priority to two or more image output units chosen according to said selection process (not shown), The transfer process which transmits the print-out to which the identification information for pinpointing an alternative output destination change based on the output priority determined according to said priority decision process is added to said server (not shown), It has the notice process (not shown) which notifies the output destination change modification information transmitted from said

server after a transfer of said print-out by said transfer process.

[0012] The 7th invention concerning this invention It is the image output-control approach [in / through predetermined communication media (the network LAN shown in drawing 1) / two or more data processors (computer apparatus containing the personal computer 7 shown in drawing 1 which is not illustrated), two or more image output units, and the image power control device that can be communicated]. The acquisition process which analyzes the print-out received from one of data processors, and acquires as another image output destination change as a priority (step S402 shown in drawing 4), The 1st judgment process which judges whether it is the trouble condition that the image output unit corresponding to the image output destination change acquired by said acquisition process cannot carry out normal power of said print-out (step S404 shown in drawing 4), When judged with it being in a trouble condition according to said 1st judgment process The 2nd judgment process which judges whether there is any next alternative destination assignment based on as another identification information as the priority added to said print-out (step S406 shown in drawing 4), When it judges with alternative destination assignment not being made according to said 2nd judgment process The notice process which notifies that the image output by said image output unit is non-exit status to one which is deduced from this print-out of data processors (step S408 shown in drawing 4), When it judges with the next alternative destination assignment being made according to said 2nd judgment process It has the transfer control process (step S407 shown in drawing 4) transmitted to the following image output unit based on the specified this priority. Said notice process (step S409 shown in drawing 4) It notifies that the image output destination change of said print-out was changed after the transfer according to said transfer control process to the data processor which received the print-out concerned.

[0013] Said trouble of the 8th invention concerning this invention is failure of said image output unit.

[0014] It is the form piece of a record medium [as opposed to / invention / concerning this invention / 9th / said image output unit in said trouble].

[0015] It is feed plugging [as opposed to / invention / concerning this invention / 10th / said image output unit in said trouble] of a record medium.

[0016] The 11th invention concerning this invention It communicates with the server (document server 4 shown in drawing 1) which controls two or more image output units through predetermined communication media (the network LAN shown in drawing 1). The selection process which is the storage which stored the program which the computer which controls the data processor which can be transmitted to said server for the print-out generated can read, and chooses one or more image output units (not shown), The priority decision process which attaches output priority to two or more image output units chosen according to said selection process (not shown), The transfer process which transmits the print-out to which the identification information for pinpointing an alternative output destination change based on the output priority determined according to said priority decision process is added to said server (not shown), The program which the computer which has the notice process (not shown) which notifies the output destination change modification information transmitted from said server can read is stored in a storage after a transfer of said print-out by said transfer process.

[0017] The 12th invention concerning this invention Predetermined communication media (the network LAN shown in drawing 1) are minded. It is the storage which stored the program which the computer which controls two or more data processors (computer apparatus containing the personal computer 7 shown in drawing 1 which is not illustrated) and the image output unit which can be communicated can read. The acquisition process which analyzes the print-out received from one of data processors, and acquires as another image output destination change as a priority (step S402 shown in drawing 4), The 1st judgment process which judges whether it is the trouble condition that the image output unit corresponding to the image output destination change acquired by said acquisition means cannot carry out normal power of said print-out (step S404 shown in drawing 4), When judged with it being in a trouble condition by said 1st judgment means The 2nd judgment process which judges whether there is any next alternative destination assignment based on as another identification information as the priority added to said print-out (step S406 shown in drawing 4), When it judges with alternative destination assignment not being made according to said 2nd judgment process The notice process which notifies

that the image output by said image output unit is non-exit status to one which is deduced from this print-out of data processors (step S408 shown in drawing 4), When it judges with the next alternative destination assignment being made according to said 2nd judgment process It has the transfer control process (step S407 shown in drawing 4) transmitted to the following image output unit based on the specified this priority. Said notice process (step S409 shown in drawing 4) The program which the computer which notifies that the image output destination change of said print-out was changed after the transfer according to said transfer control process to the data processor which received the print-out concerned can read is stored in a storage.

[0018] The 13th invention concerning this invention stores in a storage the program of said trouble which can read the computer which is failure of said image output unit.

[0019] The 14th invention concerning this invention stores in a storage the program of said trouble which can read the computer which is the form piece of the record medium to said image output unit.

[0020] The 15th invention concerning this invention stores in a storage the program of said trouble which can read the computer which is feed plugging of a record medium to said image output unit.

[0021]

[Embodiment of the Invention] Hereafter, the suitable operation gestalt of this invention is explained with reference to a drawing.

[0022] [System configuration] Drawing 1 is drawing showing an example of the image input/output system which can apply the output equipment in which 1 operation gestalt of this invention is shown, and when a compound image processing system, scanner equipment, an information processor, printer equipment, etc. are connected through a network, it corresponds.

[0023] In drawing, 1 is a digital copier, has picture-input-device 2(the reader section is called below) 2 and two or more kinds of detail-paper cassettes which change a manuscript into image data, and is equipped with the image output unit (the printer section is called hereafter) 3 which outputs image data in the record paper as a visible image with a print instruction. About the configuration of this digital copier 1, it mentions later with reference to drawing 2 .

[0024] 6 is an integral controller, and it exchanges a job with each equipment connected in Network LAN while it controls each function of the reader section 2 and the printer section 3. The integral controller 6 manages the data-processing section which each equipment has according to an individual and is controllable, for example, even if the integral controller 6 of a digital copier 1 manages independently the reader section 2 and the printer section 3 and the printer section 3 is using it, it can use the reader section 2. Therefore, it becomes possible by connecting with Network LAN through an integral controller 6 to exchange a job per each data-processing section between the equipment on Network LAN.

[0025] 4 is a document server, and it performs various kinds of control so that it may perform smoothly the communication link between each equipment on Network LAN.

[0026] 5 is external scanner equipment connected in the network, if a manuscript is read in the scanner section 21, it will be changed into electronic data, and it can carry out data transfer to the external instrument (a digital copier 1, the external personal computer 7, external instrument containing printer equipment 8 grade) connected to Network LAN through the LAN interface 20.

[0027] 8 is an external network printer (printer equipment), and if received through the LAN interface 22, the image (electron) data query from the external instrument connected to Network LAN changes electronic image data into output image data in the image expansion section 23, and prints it out in a form in the printer section 24.

[0028] Moreover, it is also possible to carry out data transfer to the external instrument 1 connected to Network LAN through the LAN interface 22 in the printer section 24 when a certain abnormalities etc. occurred, for example, a digital copier.

[0029] Drawing 2 is a block diagram explaining the configuration of the digital copier 1 which the integral controller 6 shown in drawing 1 controls, and has given the same sign to the same thing as drawing 1 .

[0030] In drawing 2 , 2 is the reader section as a picture input device, and changes a manuscript into

image data. 3 is the printer section as an image output unit, has two or more kinds of detail-paper cassettes, and outputs image data in the record paper as a visible image with a print instruction. In addition, it is constituted by the printer section 3 possible [option connection of various kinds of finishers (a sorter, staple sorter) who do not illustrate].

[0031] It will be the controller section, 9 is managing the digital copier 1 whole, if a copy key is pressed by the control unit which is not illustrated, will drive the optical system of the reader section 2, and will read image data. And memory space is stored in the read data by the extensible image memory 11, they transmit image data to the printer section 3 after an image processing, and carry and output a visible image in the record paper.

[0032] On the other hand, when capturing a mass image, it also performs once incorporating the image data from the reader section 2 to a hard disk 10. Moreover, Network LAN is minded and it is image data (with the case where it is the external instrument for which a certain trouble data processing was interrupted) from an external instrument. the external instrument set up as an image acquisition place from the beginning -- containing, when sent As soon as image data and print setting data are stored in an image memory 11 top or a hard disk 10 through the LAN interface 12 and the controller section 9 and the printer section 3 is ready, image data is transmitted to the printer section 3, and it outputs in the record paper as a visible image.

[0033] [Digital copier configuration] Drawing 3 is the sectional view showing the configuration of the reader section 2 shown in drawing 1 , and the printer section 3. With reference to drawing 3 , the configuration and actuation of the reader section 2 and the printer section 3 are explained below.

[0034] First, in the reader section 2, one manuscript loaded on the manuscript feeding device 101 is conveyed at a time on the manuscript base glass side 102 one by one. If a manuscript is conveyed in the predetermined location of the manuscript base glass side 102, lighting and the optical unit 104 will move and the lamp 103 of the reader section will irradiate a manuscript. The reflected light from a manuscript is inputted into the CCD series section (Following CCD is called) 109 through mirrors 105, 106, and 107 and a lens 108.

[0035] Photo electric conversion of the reflected light or the transmitted light of a manuscript irradiated by CCD109 is carried out here, and the electrical signal acquired by photo electric conversion is sent out to the image-processing section 110. In the image-processing section 110, an image processing is performed according to the various processing conditions set up by the control unit.

[0036] The image-processing section 110 is in the interior of the controller 9 shown in drawing 2 , and the change of whether a controller 9 outputs the image data from the reader section 2 to the printer section 3 or to output to an external network through the LAN interface 12 is possible for it, and it can output the image data from an external network to the printer section 3 through the LAN interface 12. Furthermore, the image data from an external network can be received and it can also accumulate in a hard disk 10 with print setting data.

[0037] If the output destination change of image data is the printer section 3 by the controller 9, the transmitted electrical signal will be changed into the lightwave signal modulated by the exposure control section 201, and will irradiate a photo conductor 202. The latent image made by exposure light on the photo conductor 202 is developed by the development counter 203.

[0038] The tip and timing of the above-mentioned developed image are combined, a transfer paper is conveyed from the transfer paper loading section 204 or 205, and the image by which development was carried out [above-mentioned] is imprinted in the imprint section 206. After a transfer paper is fixed to the imprinted image in the fixing section 207, it is discharged by the equipment exterior from a delivery unit 208. The transfer paper outputted from the delivery unit 208 is discharged by the top bottle of a sorter, when the sort function is working with the sorter 220 and the sort function is not working into each bottle.

[0039] Then, how to output the image read one by one to both sides of one sheet of output form is explained.

[0040] Once, the conveyance sense of after conveyance and a form is reversed to a delivery unit 208, and the output form to which it was fixed in the fixing section 207 is conveyed in the transferred paper

loading section 210 for re-feeding through the conveyance direction change member 209.

[0041] Since paper will be fed from the transferred paper loading section 210 for re-feeding about a transfer paper although a manuscript image is read like the above-mentioned process if the following manuscript is prepared, the manuscript image for two sheets is outputted to the front face of the same output paper, and a rear face after all.

[0042] [-- document server: -- the time of print assignment -- sequence] -- drawing 4 is a flow chart which shows an example of the 1st data-processing procedure in the power control device concerning this invention, and corresponds to a sequence when the document server 4 receives a print request from a personal computer 7. In addition, S401-S409 show each step.

[0043] Drawing 5 is drawing showing an example of the print place appointed screen displayed on the peripheral device of the personal computer 7 shown in drawing 1.

[0044] In drawing, the user who is going to print out sets up an output printer by part for a part for the specification part 501 of the 1st printer, and the specification part 502 of the 2nd printer, and specifies an output method, for example, print number of copies, one side / double-sided print assignment as the print setting section 503. With this operation gestalt, "LBP-1" is specified as the 1st printer and "LBP-2" is specified as the 2nd printer.

[0045] And various setup is completed and various setup is transmitted to the document server 4 with data (electronic data) by pushing the O.K. carbon button 504.

[0046] Moreover, in stopping print-out, this Print Screen 500 disappears from a screen by pushing Cancel button 505. Furthermore, when the O.K. carbon button 504 is pushed, the data of the DS shown in drawing 6 to a digital copier 1 through Network LAN are transmitted from a personal computer 7.

[0047] Drawing 6 is drawing showing an example of the transfer data transmitted to the document server 4 through Network LAN from the personal computer 7 shown in drawing 1.

[0048] In drawing 6, the ID number (here ID number of LBP-B) with which the ID number (here ID number of LBP-A) which shows the printer which specified 901 as a part for the specification part 501 of the 1st printer in drawing 5 is stored, and indicates the printer specified as a part for the specification part 502 of the 2nd printer in drawing 5 to be to 902 is stored.

[0049] Moreover, a print setup of print number of copies, one side / double-sided print assignment, etc., etc. is stored in the control data section 903, and data (electronic data) information to print is stored in data division 904, and it is transmitted to the document server 4 by one set.

[0050] Drawing 7 is drawing which explains the DS of the output data transmitted to a network printer 8 from the document server 4 shown in drawing 1.

[0051] In drawing, 1001 is the control data section and a print setup of print number of copies, one side / double-sided print assignment, etc., etc. is stored. 1002 is data division and data (electronic data) information to print is stored.

[0052] Drawing 8 is drawing which explains the DS of the output data transmitted to a personal computer 7 from the document server 4 shown in drawing 1.

[0053] The information which shows the reason which was not able to output 700 to a print place modification check screen, and was not able to output 601 to the 1st assignment printer in drawing is shown, for example, the information which shows what "it is [the thing] out of order" is written, and the information which shows that the printed output was made to a second-digit constant printer is written to 602.

[0054] Drawing 9 is drawing showing an example of the print place modification check screen displayed on the display of the personal computer 7 shown in drawing 1.

[0055] In drawing, 701 is the O.K. carbon button, and in case it eliminates the acknowledgement message displayed on the indicating equipment based on the notice information notified from the document server 4 shown in drawing 8, it is pushed.

[0056] Drawing 10 is drawing showing an example of the print information transmitted to a personal computer 7 from the document server 4 shown in drawing 1.

[0057] The information which shows what 801 showed the information which shows the reason which is the 1st printer error information and was not able to be outputted to the 1st assignment printer, for

example, "is [the thing] out of order" in drawing is written. 802 is the 2nd printer error information and the information which shows the information which shows the reason which was not able to be outputted to the 2nd assignment printer, for example, shows that it is a "paper jam" is written.

[0058] Drawing 11 is drawing showing an example of the print place modification check screen displayed on the display of the personal computer 7 shown in drawing 1.

[0059] In drawing, 1100 is a print processing-state screen and the print termination acknowledgement message based on the print information shown in drawing 10 is displayed.

[0060] 1101 is the O.K. carbon button, and in case it eliminates the acknowledgement message (print termination message by failure of LBP-A, and the paper jam of LBP-B) displayed on the indicating equipment based on the notice information notified from the document server 4 shown in drawing 8, it is pushed.

[0061] Hereafter, control action is explained with reference to the flow chart shown in drawing 4.

[0062] The document server 4 performs various initial setting behind powering on and in the document server 4 (S401), and makes it the situation that the print request from an external instrument is receivable. After initial setting is completed, it changes to step S402 and the document server 4 will be in the state waiting for a Print job request from a personal computer 7.

[0063] In this condition, when it is going to print out the data created in the personal computer 7 connected to the document server 4 in the network, Print Screen 500 shown on the screen of a personal computer 7 at drawing 5 appears.

[0064] Here, the user who is going to print out sets up an output printer by part for a part for the specification part 501 of the 1st printer, and the specification part 502 of the 2nd printer, and specifies an output method, for example, print number of copies, one side / double-sided print assignment as the print setting section 503. With this operation gestalt, "LBP-A" is specified as the 1st printer and "LBP-B" is specified as the 2nd printer.

[0065] And various setup is completed and various setup is transmitted to the document server 4 with data (electronic data) by pushing the O.K. carbon button 504.

[0066] Moreover, in stopping print-out, this Print Screen 500 disappears from a screen by pushing Cancel button 505. Furthermore, when the O.K. carbon button 504 is pushed, the DS shown in drawing 6 to the document server 4 through a network is transmitted from a personal computer 7.

[0067] If this information is transmitted from a personal computer 7, the document server 4 will change from a Print job request waiting state to step S403. In step S403 and the document server 4 Store the received DS in the memory in a server 4; and the 1st assignment printer ID 901 is analyzed. It is confirmed whether it can print to a corresponding printer "LBP-A" (S404). The printer "LBP-A" has not carried out current failure, namely, when it is judged for the reasons of not having the job under print which is not an error that it is in the condition which can be printed Change to step S405, and from the inside of the memory which stored the DS (refer to drawing 6) received from the personal computer 7, suck up a print setup and electronic data and it is made the DS shown in drawing 7. It transmits to the printer "LBP-A" specified through Network LAN. A printer "LBP-A" changes and carries out the printed output of the electronic data to image data based on a print setup and electronic data which were received.

[0068] And since the document server 4 deletes the DS shown in drawing 6 stored in memory and serves as Print job request waiting from a personal computer 7, it changes to step S402.

[0069] On the other hand, when it is judged in step S404 that the printer "LBP-A" suited use disabling of a paper jam [failure or] for the error The inside of the DS which changed to step S406 and was received from the personal computer 7 out of memory, It is confirmed whether the second-digit constant printer ID 902 can be analyzed, and can be printed to a corresponding printer "LBP-B." The printer "LBP-B" has not carried out current failure, namely, when it is judged for the reasons of not having the job under print which is not an error that it is in the condition which can be printed Carry out a state transition to step S407, and from the inside of the memory which stored the DS (refer to drawing 6) received from the personal computer 7, suck up a print setup and electronic data and it is made the DS shown in drawing 7. It transmits to the printer "LBP-B" specified through Network LAN. A printer "LBP-B"

changes and carries out the printed output of the electronic data to image data based on a print setup and electronic data which were received.

[0070] Thus, if the document server 4 recognizes that the specified printed output was completed in the printer "LBP-B" The print-out which has the DS of drawing 8 to the personal computer 7 which generated the Print job request (the information 601 which shows the reason which was not able to be outputted to a first-digit constant printer is shown) for example, the information which shows what "it is [the thing] out of order" writes -- having -- **** -- information 602 -- a second digit -- a law -- the information which shows that the printed output was made is written to a printer -- **** -- it transmits (S409).

[0071] Moreover, the document server 4 deletes the DS equivalent to having been shown in drawing 6 stored in memory, and since it serves as Print job request waiting from a personal computer 7, it changes to step S402.

[0072] On the other hand, in a personal computer 7 side, if above-mentioned information is received, the print place modification check side 700 which carried out information analysis and which was shown on the screen at drawing 9 will be displayed. The printed output user who acquired this information can eliminate this display by pushing the O.K. carbon button 701.

[0073] On the other hand, when it is judged in step S406 that the printer "LBP-B" suited use disabling of a paper jam [failure or] for the error, it changes to step S408 and the document server 4 transmits print information with the DS shown in drawing 10 to the personal computer 7 which carried out the Print job request. this information -- a first digit -- a law -- as the information 801 which shows the reason which was not able to be outputted to a printer -- for example, the information which shows what "it is [the thing] out of order" writes -- having -- **** -- further -- a second digit -- a law -- the information which shows a "paper jam" is written as information 802 which shows the reason which was not able to be outputted to a printer. Moreover, the document server 4 deletes the DS shown in drawing 6 stored in memory, and since it serves as Print job request waiting from a personal computer 7, it carries out a state transition to step S402.

[0074] In a personal computer 7 side, if above-mentioned information is received, information analysis will be carried out and the print processing-state image 1100 of drawing 11 will be displayed on a screen. The printed output user on the personal computer 7 which acquired this information can eliminate this display by pushing the O.K. carbon button 1101.

[0075] [-- document server: -- sequence] at the time of the error under print -- the flow chart hereafter shown in drawing 12 and drawing 13 , and drawing 14 -- referring to -- a first digit -- a law -- a sequence when the document server 4 which is a printer carries out error generating during a printed output is explained.

[0076] Drawing 12 is a flow chart which shows an example of the 2nd data-processing procedure in the power control device concerning this invention, and corresponds to a sequence when the document server 4 receives a printer error notification from a printer. In addition, S1201-S1211 show each step.

[0077] Drawing 13 is drawing showing an example of the error information transmitted to a personal computer 7 from the document server 4 shown in drawing 1 . In drawing, 1301 is notice information.

[0078] Drawing 14 is drawing showing an example of the print termination check screen displayed on the display of the personal computer 7 shown in drawing 1 .

[0079] In drawing, 1400 is a print processing-state screen and the print termination acknowledgement message based on the print information shown in drawing 13 is displayed.

[0080] 1401 is the O.K. carbon button, and in case it eliminates the acknowledgement message (print termination message by the paper jam of LBP-A) displayed on the indicating equipment based on the notice information 1301 notified from the document server 4 shown in drawing 13 , it is pushed.

[0081] First, in the personal computer 7 connected to the document server 4 in Network LAN, "LBP-A" is specified as the 1st printer, "LBP-B" is specified that it will print out the created data as the 2nd printer in the display screen (Print Screen 500) of drawing 5 , and various setup is transmitted to the document server 4 with data (electronic data) as initial setting by pushing the O.K. carbon button 504 (S1201).

[0082] And the document server 4 receives the DS shown in drawing 6, DS is stored in the memory in a server, the data based on the DS which analyzed the 1st assignment printer ID 901 and showed it to drawing 7 to "LBP-A" after printed output check termination to the corresponding printer "LBP-A" are transmitted, and a printed output is started by "LBP-A."

[0083] Next, after urging a printed output to "LBP-A", the document server 4 is ****(ed) in the error notification check condition from a printer "LBP-A" (S1202).

[0084] If the error notification by failure etc. is received from a printer "LBP-A" at this step, those contents of an error notification will be analyzed (S1203).

[0085] And when the DS shown in drawing 6 which received previously after analysis termination is read from memory, it judges whether the 2nd printer is specified (S1204) and it is judged that the 2nd printer is not specified, the document server 4 transmits the print impossible information which has the DS of drawing 13 to the personal computer 7 which carried out the Print job request (S1205). To this information, the information which shows the reason which was not able to be outputted to the 1st printer is describing, and the information which shows what "was broken down" with this operation gestalt is written. Moreover, the document server 4 deletes the DS shown in drawing 6 stored in memory, and will be in the state waiting for a Print job request from a personal computer 7 (S1211).

[0086] And in a personal computer 7 side, reception of above-mentioned information displays the message screen 1400 which carried out information analysis and which was shown on the screen at drawing 14. The printed output user who acquired this information can eliminate this display by pushing the O.K. carbon button 1401.

[0087] On the other hand, in step S1204, if the 2nd printer is specified It is confirmed whether the second-digit constant printer ID 902 can be analyzed (S1206), and can be printed to a corresponding printer "LBP-B" (S1207). The printer "LBP-B" has not carried out current failure, namely, when it is judged for the reasons of not having the job under print which is not an error that it is in the condition which can be printed Change to step S1208, and from the inside of the memory which stored the DS (refer to drawing 6) received from the personal computer 7, suck up a print setup and electronic data and it is made the DS shown in drawing 7. It transmits to the printer "LBP-B" specified through Network LAN. And a printer "LBP-B" changes and carries out the printed output of the electronic data to image data based on a print setup and electronic data which were received.

[0088] Next, in a printer "LBP-B", the document server's 4 recognition of that the specified printed output was completed transmits the output destination change modification information which has the DS of drawing 6 to the personal computer which generated the Print job request (S1209). And the document server 4 deletes the DS equivalent to drawing 9 stored in memory, and changes to step S1211 of the Print job request waiting state from a personal computer 7.

[0089] Thereby, in a personal computer 7 side, reception of above-mentioned information displays the message screen 700 which carried out information analysis and which was shown on the screen at drawing 9. The printed output user who acquired this information can eliminate this display by pushing the O.K. carbon button 701.

[0090] On the other hand, when it is judged in step S1207 that the printer "LBP-B" suited use disabling of a paper jam [failure or] for the error It is the print information (as information 801 which shows the reason which was not able to be outputted to a first-digit constant printer) which changes to step S1210 and has the DS which showed the document server 4 to drawing 10 to the personal computer 7 which carried out the Print job request. for example, the information which shows what "was broken down" writes -- having -- **** -- a second digit -- a law -- the information which shows a "paper jam" is written as information 802 which shows the reason which was not able to be outputted to a printer -- **** -- it transmits.

[0091] Moreover, since the document server 4 deletes the data of the DS shown in drawing 6 stored in memory and serves as Print job request waiting from a personal computer 7, it changes to step S1211.

[0092] Thereby, in a personal computer 7 side, reception of above-mentioned information displays the message screen 1100 which carried out information analysis and which was shown on the screen at drawing 11. The printed output user who acquired this information can eliminate this display by

pushing the O.K. carbon button 1101.

[0093] In addition, in the above-mentioned operation gestalt, although the case where two printers were chosen was mentioned as the example and explained, it may not limit to two but more printers may be chosen.

[0094] In that case, according to priority, it confirms whether a sequential output of all the selected printers is possible, and a printed output demand is performed to a printer with priority high if possible.

[0095] Moreover, when it will be in an abnormal condition, even if it will give a printed output demand to other printers and the printer will also be in an abnormal condition, according to priority, a sequential output check may be performed for all the selected printers, and a printed output demand may be performed.

[0096] According to the above-mentioned operation gestalt, while being able to carry out the scheduling of the desired print job speedily, according to real time change of a situation, a printed output can be carried out to the optimal printer.

[0097] Moreover, by carrying out a printed output to other printers automatically, if two or more printers are specified even if the specified printer will be in a condition without failure, a paper jam, and paper, and notifying a user of that, after a user does print assignment, the output time-amount waiting by failure etc. can be stopped to the minimum, and also building inquiry of the need to a print server etc., since that the output destination change changed can also recognize a user is also lost.

[0098] Furthermore, when all the selected printers will be in an abnormal condition, you can notice that the printer of an abnormal condition must be returned promptly by notifying that a printed output was not made.

[0099] The printing system which can apply the data processor and image power control device which are hereafter applied to this invention with reference to the memory map shown in drawing 15 explains the configuration of the data-processing program which can be read.

[0100] Drawing 15 is drawing explaining the memory map of the storage which stores the various data-processing programs which can be read by the printing system which can apply the data processor and image power control device concerning this invention.

[0101] In addition, although it does not illustrate especially, the information for which the information which manages the program group memorized by the storage, for example, version information, an implementer, etc. are memorized, and it depends on OS by the side of program read-out etc., for example, the icon which indicates the program by discernment, may be memorized.

[0102] Furthermore, the data subordinate to various programs are also managed to the above-mentioned directory. Moreover, the program for installing various programs in a computer, the program thawed when the program to install is compressed may be memorized.

[0103] The function shown in drawing 4 in this operation gestalt and drawing 12 may be carried out with the host computer by the program installed from the outside. And this invention is applied even when the information group which includes a program from an external storage is supplied by the output unit through storages, such as CD-ROM, a flash memory, and FD, or a network in that case.

[0104] As mentioned above, it cannot be overemphasized by supplying the storage which recorded the program code of the software which realizes the function of the operation gestalt mentioned above to a system or equipment, and carrying out read-out activation of the program code with which the computer (or CPU and MPU) of the system or equipment was stored in the storage that the purpose of this invention is attained.

[0105] In this case, the program code itself read from the storage will realize the new function of this invention, and the storage which memorized that program code will constitute this invention.

[0106] As a storage for supplying a program code, a floppy disk, a hard disk, an optical disk, a magneto-optic disk, CD-ROM, CD-R, a magnetic tape, the memory card of a non-volatile, ROM, EEPROM, etc. can be used, for example.

[0107] Moreover, it cannot be overemphasized that it is contained also when the function of the operation gestalt which performed a part or all of processing that OS (operating system) which is working on a computer is actual, based on directions of the program code, and the function of the

operation gestalt mentioned above by performing the program code which the computer read is not only realized, but was mentioned above by the processing is realized.

[0108] Furthermore, after the program code read from a storage is written in the memory with which the functional expansion unit connected to the functional add-in board inserted in the computer or a computer is equipped, it cannot be overemphasized that it is contained also when the function of the operation gestalt which performed a part or all of processing that CPU with which the functional add-in board and functional expansion unit are equipped based on directions of the program code is actual, and mentioned above by the processing is realized.

[0109]

[Effect of the Invention] As explained above, according to the 1st invention concerning this invention, it is the data processor which can be transmitted to said server about the print-out which communicates with the server which controls two or more image output units through predetermined communication media, and is generated. A selection means to choose one or more image output units, and the priority decision means which attaches output priority to two or more image output units chosen with said selection means, The control means which transmits the print-out to which the identification information for pinpointing an alternative output destination change based on the output priority determined by said priority decision means is added to said server, Since it has a notice means to notify the output destination change modification information transmitted from said server after a transfer of said print-out by said control means Even if the image output unit of the image output destination change specified will be in the condition which cannot be outputted in a certain trouble only by transmitting a print-out to a server Automatic transfer of the print-out concerned can be carried out to the image output unit of the next image output destination change according to the priority added to this print-out, and the destination decision of the same print-out by the data-processor side and the resending burden of the same print-out can be mitigated sharply.

[0110] According to the 2nd invention, they are two or more data processors, two or more image output units, and the image power control device that can be communicated through predetermined communication media. An acquisition means to analyze the print-out received from one of data processors, and to acquire the image output destination change according to priority, The 1st judgment means which judges whether it is the trouble condition that the image output unit corresponding to the image output destination change acquired by said acquisition means cannot carry out normal power of said print-out, The 2nd judgment means which judges whether there is any next alternative destination assignment based on the identification information according to priority added to said print-out when judged with it being in a trouble condition by said 1st judgment means, When it judges with alternative destination assignment not being made by said 2nd judgment means A notice means to notify that the image output by said image output unit is non-exit status to one which is deduced from this print-out of data processors, When it judges with the next alternative destination assignment being made by said 2nd judgment means It has the transfer control means transmitted to the following image output unit based on the specified this priority. Said notice means Since it notifies that the image output destination change of said print-out was changed after the transfer by said transfer control means to the data processor which received the print-out concerned Even if a certain trouble which cannot be outputted with the high image output unit of the priority which had the print-out received from a data processor specified occurs Without asking a data-processor side, automatic transfer can be carried out to the following image output unit according to the priority added to the print-out, and the modification burden of the image output schedule by the data-processor side and the re-transfer burden of the same print-out can be mitigated.

[0111] Moreover, a user can be made to notice that the printer of an abnormal condition must be returned promptly.

[0112] The image output unit specified by a user can be assigned without delaying the output of the received print-out to troubles, such as failure of an image output unit, a form piece of a record medium, and feed plugging of a record medium, according to the 3rd - the 5th invention.

[0113] According to the 6th and 11th invention concerning this invention, it is the data transfer approach

in the data processor which can transmit the print-out which communicates with two or more image output units, and is generated through predetermined communication media. Or it is the storage which stored the program which the computer which controls the data processor which can transmit the print-out which communicates with two or more image output units, and is generated through predetermined communication media can read. The selection process which chooses one or more image output units, and the priority decision process which attaches output priority to two or more image output units chosen according to said selection process, The transfer process which transmits the print-out to which the identification information for pinpointing an alternative output destination change based on the output priority determined according to said priority decision process is added to said server, Since it has the notice process which notifies the output destination change modification information transmitted from said server after a transfer of said print-out by said transfer process Even if the image output unit of the image output destination change specified will be in the condition which cannot be outputted in a certain trouble only by transmitting a print-out to a server Automatic transfer of the print-out concerned can be carried out to the image output unit of the next image output destination change according to the priority added to this print-out, and the destination decision of the same print-out by the data-processor side and the resending burden of the same print-out can be mitigated sharply.

[0114] The 7th and 12th invention concerning this invention is the image output-control approach [in / through predetermined communication media / two or more data processors and the image power control device which can be communicated]. Or it is the storage which stored the program which the computer which controls two or more data processors and the image output unit which can be communicated through predetermined communication media can read. The acquisition process which analyzes the print-out received from one of data processors, and acquires the image output destination change according to priority, The 1st judgment process which judges whether it is the trouble condition that the image output unit corresponding to the image output destination change acquired by said acquisition process cannot carry out normal power of said print-out, The 2nd judgment process which judges whether there is any next alternative destination assignment based on the identification information according to priority added to said print-out when judged with it being in a trouble condition according to said 1st judgment process, When it judges with alternative destination assignment not being made according to said 2nd judgment process The notice process which notifies that the image output by said image output unit is non-exit status to one which is deduced from this print-out of data processors, When it judges with the next alternative destination assignment being made according to said 2nd judgment process It has the transfer control process transmitted to the following image output unit based on the specified this priority. Said notice process Since it notifies that the image output destination change of said print-out was changed after the transfer according to said transfer control process to the data processor which received the print-out concerned Even if a certain trouble which cannot be outputted with the high image output unit of the priority which had the print-out received from a data processor specified occurs Without asking a data-processor side, automatic transfer can be carried out to the following image output unit according to the priority added to the print-out, and the modification burden of the image output schedule by the data-processor side and the re-transfer burden of the same print-out can be mitigated.

[0115] Moreover, a user can be made to notice that the printer of an abnormal condition must be returned promptly.

[0116] the 8- concerning this invention -- the following image output unit specified by a user can be assigned, without delaying the output of the received print-out to troubles, such as failure of an image output unit, a form piece of a record medium, and feed plugging of a record medium, according to the 10th, the 13th - the 15th invention.

[0117] Therefore, even if a certain trouble occurs with the high image output unit of priority, it transmits to the following image processing system which is having the print-out which the server received specified, and the effectiveness of being able to build the image output environment where an output schedule can be changed and it can respond promptly, free is done so.

[Translation done.]

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- 3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is drawing showing an example of the image input/output system which can apply the output equipment in which 1 operation gestalt of this invention is shown.

[Drawing 2] It is a block diagram explaining the configuration of the digital copier which the integral controller shown in drawing 1 controls.

[Drawing 3] It is the sectional view showing the configuration of the reader section shown in drawing 1 , and the printer section.

[Drawing 4] It is the flow chart which shows an example of the 1st data-processing procedure in the power control device concerning this invention.

[Drawing 5] It is drawing showing an example of the print place appointed screen displayed on the peripheral device of the personal computer shown in drawing 1 .

[Drawing 6] It is drawing showing an example of the transfer data transmitted to a digital copier through a network from the personal computer shown in drawing 1 .

[Drawing 7] It is drawing explaining the DS of the output data transmitted to a network printer from the digital copier shown in drawing 1 .

[Drawing 8] It is drawing explaining the DS of the output data transmitted to a personal computer from the digital copier shown in drawing 1 .

[Drawing 9] It is drawing showing an example of the print place modification check screen displayed on the display of the personal computer shown in drawing 1 .

[Drawing 10] It is drawing showing an example of the print information transmitted to a personal computer from the digital copier shown in drawing 1 .

[Drawing 11] It is drawing showing an example of the print place modification check screen displayed on the display of the personal computer shown in drawing 1 .

[Drawing 12] It is the flow chart which shows an example of the 2nd data-processing procedure in the power control device concerning this invention.

[Drawing 13] It is drawing showing an example of the error information transmitted to a personal computer from the document server shown in drawing 1 .

[Drawing 14] It is drawing showing an example of the print place modification check screen displayed on the display of the personal computer shown in drawing 1 .

[Drawing 15] It is drawing explaining the memory map of the storage which stores the various data-processing programs which can be read by the printing system which can apply the data processor and image power control device concerning this invention.

[Description of Notations]

- 1 Digital Copier
- 2 Reader Section
- 3 Printer Section
- 5 Scanner Equipment
- 7 Personal Computer

8 Network Printer

[Translation done.]

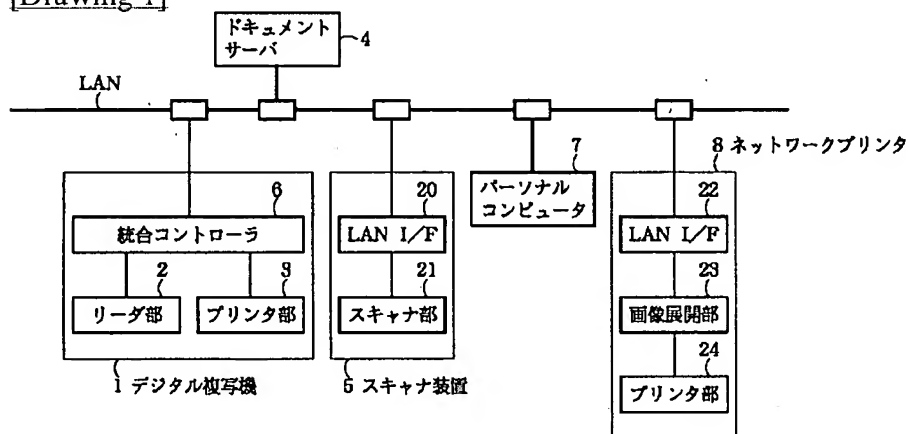
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3. In the drawings, any words are not translated.

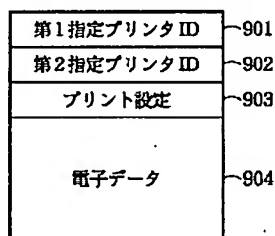
DRAWINGS

[Drawing 1]



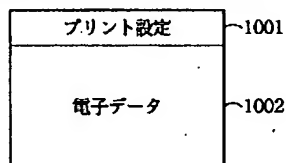
[Drawing 6]

パソコン → ドキュメントサーバ



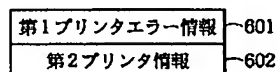
[Drawing 7]

ドキュメントサーバ → プリンタ

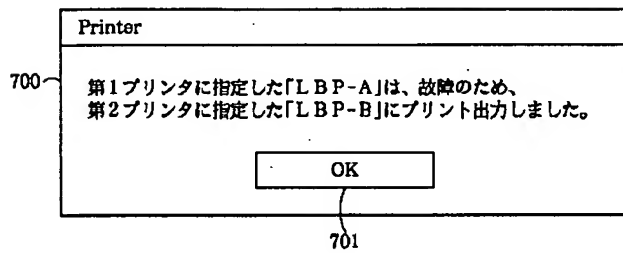


[Drawing 8]

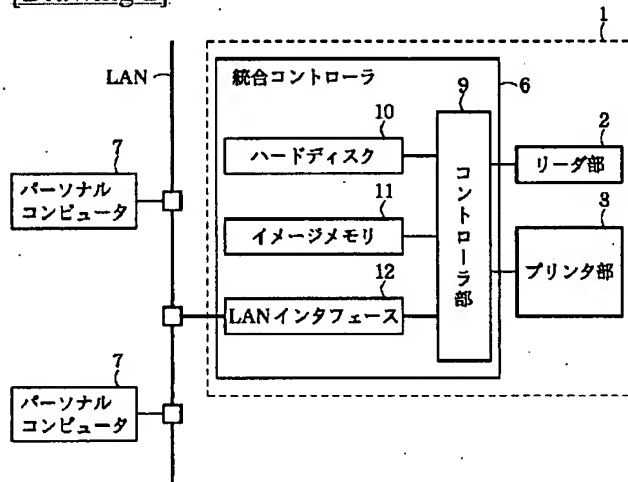
ドキュメントサーバ → パソコン



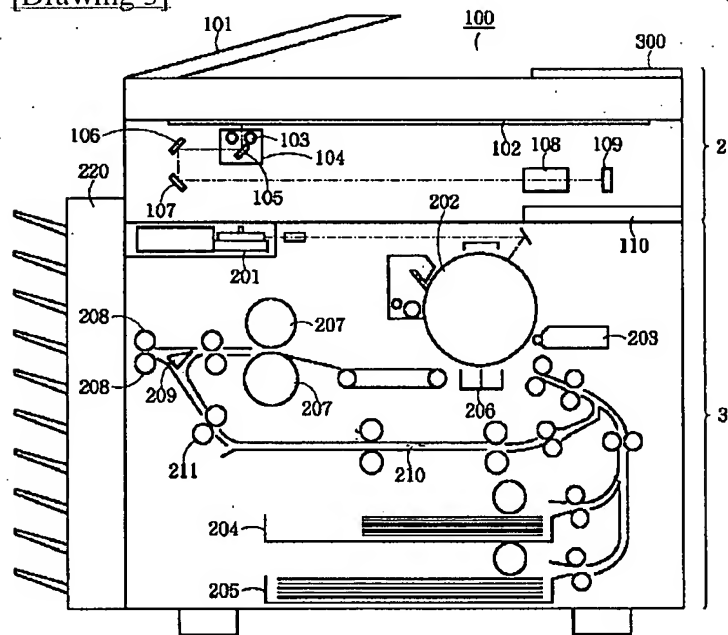
[Drawing 9]



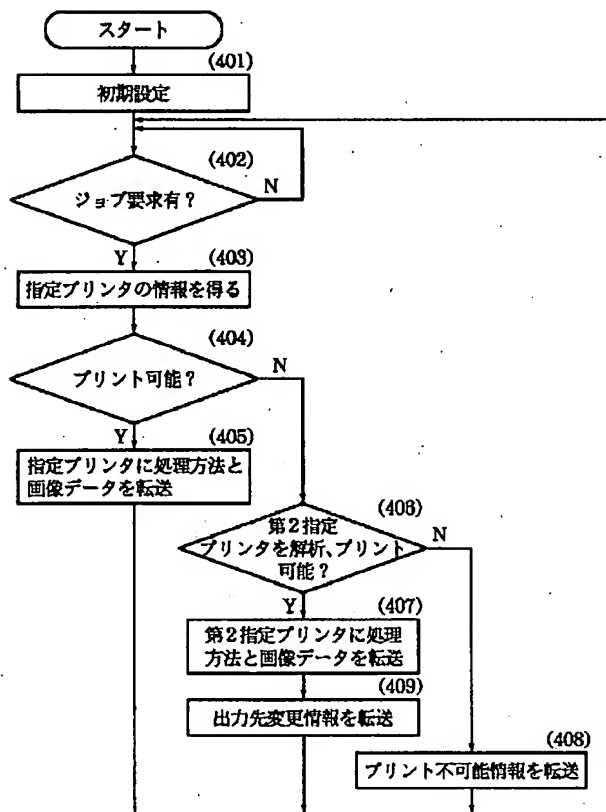
[Drawing 2]



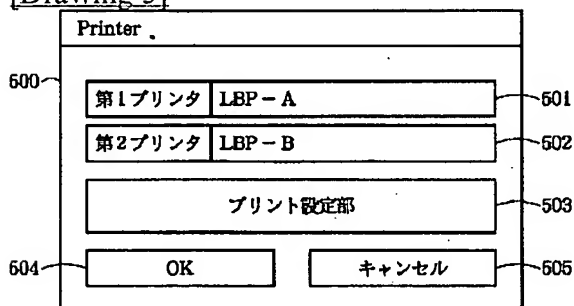
[Drawing 3]



[Drawing 4]

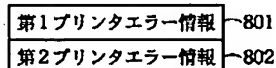


[Drawing 5]



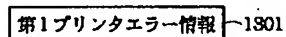
[Drawing 10]

ドキュメントサーバ → パソコン

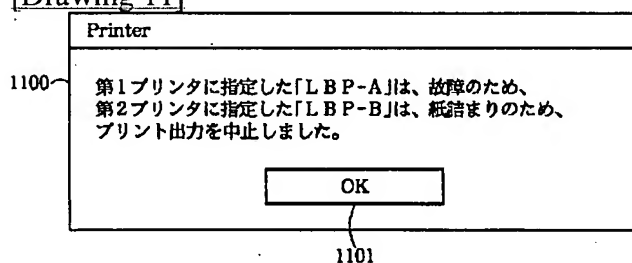


[Drawing 13]

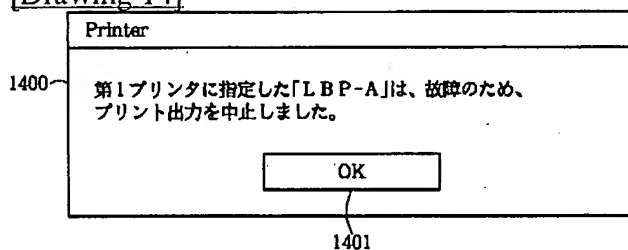
ドキュメントサーバ → パソコン



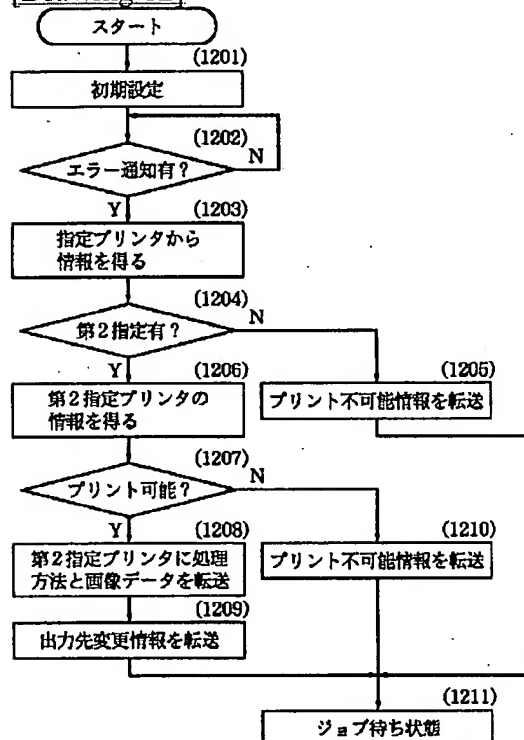
[Drawing 11]



[Drawing 14]



[Drawing 12]



[Drawing 15]

FD/CD-ROM等の記憶媒体

| ディレクトリ情報 |
|---|
| 第1のデータ処理プログラム 図4に示すフローチャートのステップに対応する プログラムコード群 |
| 第2のデータ処理プログラム 図12に示すフローチャートのステップに対応する プログラムコード群 |
| |

記憶媒体のメモリマップ

[Translation done.]